Please amend the following claims:

1. (Previously presented) A multilayer solid-state device for producing electrical power from light comprising:

a light energy conversion layer;

a two-sided conducting layer having the light energy conversion layer secured to a first side thereof;

a charge separation layer secured to a second side of the conducting layer; and

the conducting layer ballistically transports charge carriers from the light energy conversion layer to the charge separation layer which eliminates the need for an electrolyte when producing electrical power from light that impinges upon the light energy conversion layer.

2. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the light energy conversion layer produces charge carriers in the form of photon-excited electrons which are ballistically transported by the conducting layer from the light energy conversion layer to the charge separation layer.

3. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the light energy conversion layer produces charge carriers in the form of photon-excited charge carrier holes which are ballistically transported by the conducting layer from the light energy conversion layer to the charge separation layer.

Claim 4. (Cancelled)

5. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the charge separation layer comprises a semiconductor.

Claim 6. (Cancelled)

7. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the light energy conversion layer comprises a plurality of photosensitive structures.

8. (Currently amended) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the light energy conversion ~~layers~~ layer comprises photosensitive structures that are embedded in the conducting layer.

Claims 9-12. (Cancelled)

13. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer is formed from a metal.

14. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer is formed from a non-metal.

15. (Currently amended) The multi-layer solid-state device for producing electrical power from light according to claim 14 wherein the non-metal conducting layer is formed from a material selected from ~~the~~ a group including conducting and semiconducting polymers.

16. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer is formed from a metal oxide conductor.

17. (Currently amended) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer is ~~substantially~~ semi-transparent.

18. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer and charge separation layer define a Schottky barrier.

19. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer and the charge separation layer define a tunnel junction.

Claim 20. (Cancelled)

21. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the conducting layer and the charge separation layer define a metal-insulator-semiconductor junction.

Claim 22. (Cancelled)

23. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the charge separation layer comprises an inorganic semiconductor.

Claim 24. (Cancelled)

25. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 1 wherein the charge separation layer comprises an insulator deposited on a material selected from the group including metals and semiconductors.

Claims 26-30. (Cancelled)

31. (Previously presented) A multi-layer solid-state device for producing electrical power from light comprising:

a light energy conversion layer containing photosensitive means;

an ultra-thin, two sided, electrically conducting front contact layer having the light energy conversion layer secured to a first side thereof;

a two sided semiconductor charge separation layer having one side thereof secured to the second side of the front contact layer;

the front contact layer ballistically transports electrical energy from the light energy conversion layer to the charge separation layer which eliminates the need for an electrolyte when producing electrical power from light that impinges upon the light energy conversion layer; and

an electrically conductive metal back contact secured to the second side of the charge separation layer.

Claim 32. (Cancelled)

33. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer and the semiconductor charge separation layer define a metal-insulator-semiconductor junction which maximizes output power.

34. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer and the semiconductor charge separation layer define a p-type semiconductor/n-type semiconductor junction which maximizes output power.

35. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the metal back contact comprises an ohmic contact.

36. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer comprises an ultra-thin metal film layer having a thickness of between about .5 and about 1000 nm and is formed from a material selected from the group including gold and platinum.

37. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the semiconductor charge separation layer is formed from a material selected from the group including titanium dioxide, tantalum oxide, and tungsten oxide.

Claims 38-41. (Cancelled)

42. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the light energy conversion layer is formed from a material comprising a thin film semiconductor.

Claims 43-46. (Cancelled)

47. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the photosensitive means comprising the light energy conversion layer are embedded in the front contact layer.

Claims 48-49. (Cancelled)

50. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer is formed from a metal.

51. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer is formed from a non-metal conductor.

52. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer is formed from a metal oxide.

53. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer is substantially transparent.

54. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the front contact layer and charge separation layer define a Schottky barrier.

55. (Currently amended) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the charge separation layer comprises a semiconductor of a predetermined type, and further including a semiconductor of ~~the~~ an opposite predetermined type positioned between the charge separation layer and the conducting layer to provide an increased barrier height and photovoltage.

56. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the charge separation layer comprises an inorganic semiconductor.

Claims 57-58. (Cancelled)

59. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 31 wherein the charge separation layer comprises an insulator.

Claims 60-96. (Cancelled)

97. (Previously presented) A multilayer solid-state device for producing electrical power from light comprising:

a light energy conversion layer;

a two-sided front conducting layer having the light energy conversion layer secured to a first side thereof;

a two-sided charge separation layer having a first side secured to a second side of the front conducting layer; and

a two-sided back conducting layer having a first side secured to a second side of the charge separation layer, wherein said multi-layer solid-state device does not need an electrolyte to produce electrical power from light received at the light energy conversion layer.

98. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to Claim 97 wherein the front conducting layer has photoexcitable molecular species deposited thereon which enables charge carriers to be ballistically transported from the light energy conversion layer to the charge separation layer.

99. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 97 wherein the front conducting layer has absorbing nanostructures deposited thereon which enables charge carriers to be ballistically transported from the light energy conversion layer to the charge separation layer.

100. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 97 wherein the charge separation layer is a semiconductor.

101. (Previously presented) The multi-layer solid-state device for producing electrical power from light according to claim 97 wherein the back conducting layer is an ohmic conducting layer.